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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/620,790	07/15/2003	Tomoyuki Takamura	15468-003001	1106
20985	7590	11/02/2005	EXAMINER	
FISH & RICHARDSON, PC 12390 EL CAMINO REAL SAN DIEGO, CA 92130-2081			PARSONS, THOMAS H	
			ART UNIT	PAPER NUMBER
			1745	

DATE MAILED: 11/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/620,790

Applicant(s)

TAKAMURA ET AL.

Examiner

Thomas H. Parsons

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1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:

Page 10, line 14, suggest changing “AD” to --AE--;

Page 13, line 9, suggest changing “punch 23” to --punch 33--; and,

Page 23, line 18, suggest changing “12d” to --12e--.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by EP0978891.

Claim 1: EP0978891 in Figure 17 discloses a metal separator for a fuel cell wherein a first separator member (53) made of a metal and a second separator member (53) made of a metal are caulked to be bonded to each other (paragraphs [0005] – [0007] and [0058] – [0060]).

Claim 8: EP0978891 in Figure 17 discloses a bonding method of a metal separator for a fuel cell wherein a first separator member (53) made of a metal and a second separator member (53) made of a metal are caulked to be bonded to each other (paragraphs [0005] – [0007] and [0058] – [0060]).

4. Claims 1 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by JP11-239834.

Claim 1: JP '834 in Figures 1 and 2 discloses a metal separator wherein a first separator member (1) made of a metal and a second separator member (2) made of a metal are caulked to be bonded to each other (abstract and paragraphs [0015] – [0030]).

Claim 8: JP '834 in Figures 1d and 2c discloses a bonding method of a metal separator wherein a first separator member (1) made of a metal and a second separator (1) member made of a metal are caulked to be bonded to each other (abstract and paragraphs [0015] – [0030]).

The recitation “**for a fuel cell**” in line 1 of claims 1 and 8 has been considered and construed as a statement of intended use that does not further limit the claim.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2-4, 6-7, 9 and 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP0978891 in view of JP11-239834.

Claim 2: EP0978891 in Figure 17 discloses a metal separator for a fuel cell provided with a first separator member (53) having a rising wall section formed to be spaced apart from a formed section (54) for introducing a gas by a predetermined distance and

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a second separator (53) member having a rising wall section formed to be spaced apart from a formed section for introducing a gas (54) by the predetermined distance (paragraphs [0005]-[0007] and [0058]-[0060]).

EP '891 does not disclose wherein the rising wall section of the first separator member is fittingly inserted into the rising wall section of the second separator member, and

the rising wall section of the first separator member and the rising wall section of the second separator member are folded to be caulked, thereby being bonded to each other.

JP '834 in Figures 1 and 2 discloses a rising wall section (10) of a first separator member (metallic sheet 2) fittingly inserted into the rising wall section (11) of a second separator member (metallic sheet 1), and

the rising wall section (10) of the first separator member (2) and the rising wall section (11) of the second separator member (1) are folded to be caulked, thereby being bonded to each other (abstract and paragraphs [0015] – [0030]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the separator of EP '891 by incorporating the features of the metal member of JP '834 because JP '834 teaches a metal member that would have provided a low cost, high joining strength bond thereby improving the overall structural integrity, life, performance, and cost of the fuel cell.

Claim 3: The rejection is as set forth above in claim 2 wherein further JP '834 in Figures 1c and 2d discloses a bonding section (10a) where the first separator member (2) and the second separator member (10) are bonded to each.

The bonding section of the EP '891 combination would obviously serves as a manifold for passing a gas (see EP '891, Figure 17).

Claim 4: The rejection is as set forth above in claim 2 wherein further JP '834 in Figures 1d and 2c discloses metal separator (metallic sheet) wherein a bonding section where the first separator member (2) and the second separator member (1) are bonded to each other is configured such that a leading edge of the rising wall (10) of the first separator member (2) is brought into contact with the second separator member (1) for covering a folding section (11a) of the second separator member (1) with a folding section (10a) of the first separator member (abstract and paragraphs [0015]-[0030]).

Claim 6: Because the metal separator of the EP '891 is structurally the same as instantly disclosed, a step section would obviously be provided at the bonding section of the first separator member and the second separator member.

Claim 7: The rejection is as set forth above in claim 2 wherein JP '834 discloses a bonding section of the first separator member and the second separator member but is silent as to plate thickness of at least either one of the first separator member and the second separator member at the bonding section is decreased by a firm and intimate contact between the first separator member and the second separator member. However, it would have been within the skill of one having ordinary skill in the art at the time the invention was made to have decreased the thickness to any desired thickness depending upon the pressure applied to the bonding section, the type of metal material, and the number of sheets being joined as taught by JP '834.

Claim 9: The rejection of claim 9 is as set forth above in claim 2.

Claim 11. The rejection of claim 11 is as set forth above in claim 6.

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Claim 12: The rejection of claim 12 is as set forth above in claim 3.

Claim 13: The rejection of claim 13 is as set forth above in claim 4.

7. Claims 5 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 0978891 in view of JP 11-239834 as applied to claims 2 and 9 above, and further in view of Asai et al. (6,528,176)

EP '891 and JP '834 are as applied, argued, and disclosed above, and incorporated herein.

Claims 5 and 10: The EP '891 combination does not disclose a sealant.

Asai et al. in Figure 1A disclose in a similar problem solving area a sealant incorporated into a space formed between the second separator member (panel 1) and the folding section of the first separator member (6) (col. 1: 16-21 and 25-29, col. 2: 19-26, col. 3: 29-36, and col. 4: 25-28).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the separator of the EP '891 combination by incorporating the sealant of Asai et al. because both are concerned with caulking folded metal plates, and Asai et al. disclose a sealant that would have provided securely retained panels thereby preventing relative movement between the panels thereby improving the overall structural integrity, life, performance of the fuel cell.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas H. Parsons whose telephone number is (571) 272-1290. The examiner can normally be reached on M-F (7:00-4:30) First Friday Off.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pat Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Thomas H Parsons
Examiner
Art Unit 1745



PATRICK JOSEPH RYAN
SUPERVISORY PATENT EXAMINER